

### REMARKS

The present invention is directed toward a novel composition and method for deinking wastepaper. The method is designed and targeted for non-enzymatic systems. The application contains essentially five sets of claims:

- Claims 1-16, and 34, directed toward deinking compositions that contain a C<sub>16</sub> to C<sub>18</sub> aliphatic, monohydric alcohol alkoxylate having at least about 16 moles of ethylene oxide and no more than about 6 moles of propylene oxide.
- Claims 17-33, 35, and 36, directed toward methods of deinking recycled newspaper print, using a surfactant that comprises a C<sub>16</sub> to C<sub>25</sub> aliphatic, monohydric alcohol alkoxylate having from 14 to 40 moles of ethylene oxide and no more than about 6 moles of propylene oxide.
- Claims 37 and 38, directed toward deinking compositions that contain a C<sub>16</sub> to C<sub>25</sub> aliphatic, monohydric alcohol alkoxylate having from 14 to 40 moles of ethylene oxide and about 0 moles of propylene oxide.
- Claims 39 and 40, directed toward deinking processes that employ deinking compositions containing a C<sub>16</sub> to C<sub>25</sub> aliphatic, monohydric alcohol alkoxylate having from 14 to 40 moles of ethylene oxide and about 0 moles of propylene oxide.
- Claims 41 and 42, directed toward wash deinking processes using a surfactant that comprises a C<sub>16</sub> to C<sub>25</sub> aliphatic, monohydric alcohol alkoxylate having from 14 to 40 moles of ethylene oxide and from 0-10 moles of propylene oxide.

#### **Rejection under 35 U.S.C. 103(a) over Jobbins et al., US 5,807,464**

In paragraph 2, the Office Action rejects claims 1-33 for allegedly being obvious over Jobbins et al., US 5,807,464. Jobbins discloses an enzymatic deinking process for mixed office waste. The process is a flotation-based system. According to the Office Action, Jobbins describes a surfactant that is useful in the process, referred to commercially as Inkmaster 750, that is a C<sub>16</sub> to C<sub>20</sub> surfactant having 10-20 ethylene oxide units and 4-8 propylene oxide units.

Jobbins does not support a prima facie case of obviousness against the claimed compositions (claims 1-16 and 34) because Jobbins would not have motivated a skilled worker to construct or select a surfactant covered by these claims. Jobbins would not have motivated a

skilled worker to select a surfactant covered by these claims because Jobbins discloses a flotation-based system. As explained in the background of the patent application:

There are two major types of deinking methods or practices, namely flotation/washing combination and wash deinking. Flotation/washing deinking refers to a deinking process in which the ink released by the deinking composition is separated from the cellulosic fibers primarily through the flotation devices or flotation cells of the recycling process prior to passing the pulp through washing stages (i.e. through washers). Wash deinking, on the other hand, refers to a deinking process wherein the ink released by the deinking composition is separated from the cellulosic fibers primarily in the washing stages.

Because Jobbins' process is a flotation-based system, Jobbins requires a deinking agent in which the hydrophobic/hydrophilic balance of carbon length, propylene oxide content, and ethylene oxide content, is tilted toward a hydrophobic product. Hydrophobicity is achieved through increased carbon chain length, increased propylene oxide content, and/or decreased ethylene oxide content.

Therefore, with respect to claims 1-16 and 34,

- A skilled worker would be motivated to employ a surfactant having a carbon content toward the higher end of the C16 to C20 range disclosed by Jobbins, above the C16-C18 range presently claimed in claims 1-16 and 34;
- A skilled worker would be motivated to employ an ethylene oxide content toward the lower end of the 10-20 range disclosed by Jobbins, below the 16-30 range presently claimed in claims 1-16 and 34; and
- A skilled worker would be motivated to employ a propylene oxide content toward the higher end of the 4-8 range disclosed by Jobbins, above the 0-6 range presently claimed in claims 1-16 and 34.

As can be seen, a skilled worker would be required to select from the most hydrophilic ends of the ranges for all three components of the surfactants disclosed by Jobbins to arrive at the compositions covered by claims 1-16 and 34. Because a skilled worker interested in developing a deinking surfactant for a flotation-based system desires to maximize hydrophobicity, Jobbins would not have motivated the skilled worker to construct a surfactant in which every one of the components of the surfactant maximizes hydrophilicity. Therefore, Jobbins does not state a prima facie case of obviousness against claims 1-16 and 34.

This conclusion is even more pronounced with respect to claims 37-40, which do not allow for the presence of any meaningful quantities of propylene oxide. Because Jobbins teaches the essential nature of propylene oxide to a hydrophobic surfactant (see Column 4, lines 58-59), Jobbins does not support a prima facie case of obviousness against claims 37 and 38.

Jobbins also does not support a prima facie case of obviousness against claims 17-33, 35, and 36, because Jobbins is concerned with enzymatically deinking mixed office waste and claims 17-33, 35 and 36 claim deinking processes for recycled newsprint, a product that is substantively different than mixed office waste. Mixed office waste and recycled newsprint differ in the types of ink employed, the chemical properties of the ink, the size and physical properties of the ink particles, the means by which the ink is applied to the paper, and the presence of other chemicals in the recycle bath that are used to coat and manufacture mixed office waste. In addition, the deinking processes for recycled newsprint usually are not flotation-based systems, or more specifically the enzymatic type of deinking systems disclosed by Jobbins. Jobbins is selecting a nonionic surfactant that works synergistically/cooperatively with an enzyme for the desired deinking performance. A worker skilled in the art would not have been motivated to use Jobbins' surfactant in a system such as the claimed system that is not designed or targeted to employ an enzyme. In view of these differences, a skilled worker would not have been motivated to employ the surfactants disclosed by Jobbins in the newspaper recycling process of claims 17-33, 35 and 36.

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Lastly, Jobbins does not support a prima facie case of obviousness against claims 41 and 42, because Jobbins discloses an enzymatic flotation-based deinking system and claims 41 and 42 are limited to wash deinking systems. As a practical matter, flotation-based systems rely upon relatively hydrophobic surfactants to separate the ink particles from water, whereas washing systems employ hydrophilic surfactants that work in an aqueous solution. In addition, as discussed above, Jobbins is selecting a nonionic surfactant that works synergistically/cooperatively with an enzyme for the desired deinking performance. Thus, as a practical matter, a skilled worker would not be motivated to employ a flotation-based surfactant in a wash process, especially a flotation-based surfactant that is prescribed for use in an enzymatic system such as the one disclosed in Jobbins. Because Jobbins only discloses a

flotation process, and because claims 41 and 42 are limited to wash processes, Jobbins does not support a prima facie case of obviousness against claims 41 and 42.

**Rejection under 35 U.S.C. 103(a) over Irinatsu et al., US 6,103,056**

In paragraph 3, the Office Action rejects claims 1-33 for allegedly being obvious over Irinatsu et al., US 6,103,056. Irinatsu discloses a flotation deinking system for removing ink from various recycled papers. The system uses a nonionic surfactant represented by the formula  $RO(AO)_nH$  wherein R is  $C_8-C_{25}$ , AO is oxyalkylene of  $C_2-C_4$ , and n is one or more, as the deinking agent. The Office Action alleges that the particular deinking agents disclosed in the examples render the claimed invention obvious. In particular, the Office Action notes that Example 3 discloses a surfactant in which R is  $C_{18}$ , and  $(AO)_n$  comprises 15 moles of ethylene oxide and 15 moles of propylene oxide. Example 5 discloses a surfactant in which R is  $C_{18}$ , and  $(AO)_n$  comprises 10 moles of ethylene oxide and 10 moles of propylene oxide.

Irinatsu does not support a prima facie case of obviousness against claims 1-40 because Irinatsu would not have motivated a skilled worker to select or construct a surfactant possessing low quantities of propylene oxide. As discussed above, none of claims 1-40 allow for the presence of more than about 6 moles of propylene oxide. Moreover, a number of the claims (claims 37-40) do not allow for the presence of any meaningful quantity of propylene oxide. ~~Irinatsu would not have motivated a skilled worker to select or construct a surfactant possessing~~ these low quantities of propylene oxide because Irinatsu is a flotation-based system in which hydrophobicity of the surfactant is a critical consideration. This is exemplified by the fact that none of the examples contained in Irinatsu disclose surfactants that contain less than 10 moles of propylene oxide. Therefore, Irinatsu does not state a prima facie case of obviousness against claims 1-40. This conclusion is reinforced for claim 35, which does not allow for any propylene oxide.

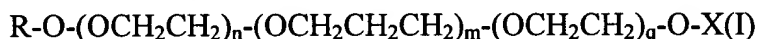
Irinatsu also does not state a prima facie case of obviousness to reject claims 1-40 because Irinatsu would not have motivated a skilled worker to employ the high contents of ethylene oxide employed in the claimed compositions (at least 14 or 16 moles of ethylene oxide), because Irinatsu requires a hydrophobic surfactant for its flotation-based system and ethylene oxide imparts hydrophilicity. This is shown by the fact that the highest ethylene oxide content

reported by Irinatsu is 15, and that content was only reported to work with a corresponding high content of propylene oxide (15 moles in example 3). Thus, Irinatsu would not have motivated a skilled worker to select or construct a deinking surfactant that employs the high amounts of ethylene oxide employed in the claimed compositions, especially using the balance of propylene oxide and ethylene oxide claimed herein.

Irinatsu also does not support a prima facie case obviousness against claims 41 and 42 because claims 41 and 42 are limited to wash deinking systems, and Irinatsu discloses a flotation-based system. See Jobbins discussion, infra.

**Rejection under 35 U.S.C. 103(a) over Rodriguez et al., US 5,665,204**

In paragraph 4, the Office Action rejects claims 1-33 for alleged obviousness over Rodriguez et al., US 5,665,204. Rodriguez discloses a washing process for deinking wastepaper derived from various sources. Rodriguez discloses surfactants useful in the process of the following general structure:



Col. 2, line 10.

As an initial matter, Applicants note that the disclosed surfactant is fundamentally different from the surfactant claimed herein, because of the presence of an R-O-O-function on the left end of the molecule. Therefore, there is a serious question whether the reference discloses any compounds within the general structure described by the pending claims.

The Office Action refers to a compound described in column 4 as POE(8)POP(12)POE(6)Nonyl Phenol. Of course, the skilled worker is left to guess concerning the precise structure of this compound in view of the detailed chemical structure recited elsewhere within the specification. Nevertheless, even if the skilled worker were to assume that this compound is not encompassed by the structure recited in Rodrigues, as the Office Action seems to suggest, the reference still would not support a prima facie case of obviousness against the present claims.

In particular, even if a skilled worker were to assume that POE(8)POP(12)POE(6)Nonyl Phenol is not encompassed by the chemical structure recited by Rodrigues, the compound still differs from the claimed invention in at least the following respects:

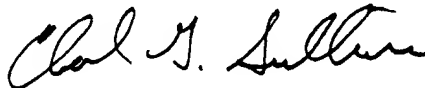
- The surfactant in Rodriguez is end-capped by a nonyl phenol aromatic moiety, whereas the surfactants described in claims 1-42 all employ aliphatic end-caps.
- The surfactant in Rodriguez employs 12 moles of propylene oxide while the surfactants described in claims 1-40 contain no more than about 6 moles of propylene oxide. The surfactant described in claims 41 and 42 contain no more than 10 moles of propylene oxide.
- The surfactant described in Rodriguez employs 14 moles of ethylene oxide while the surfactants described in claims 1-16 and 34 contain at least about 16 moles of ethylene oxide.
- The surfactant described in Rodriguez employs a ternary block polymer structure of EO/PO/EO, whereas the surfactant described in claims 7, 15, 16, and 23 employs a binary block polymer structure of EO/PO.

Because Rodriguez does not contain a suggestion to modify its surfactant to yield any of the foregoing claimed characteristics, it does not support a prima facie case of obviousness.

### CONCLUSION

The Examiner is invited to contact the undersigned at 404-572-3513 should he have any questions concerning this application or response. Other than the enclosed \$306.00 check in payment of the three extra-independent claims and three extra total claims presented by this amendment, no fee is believed due for this submission. To the extent a fee is due, however, the Commissioner is hereby authorized to charge such fee to deposit account number 14-0629.

Respectfully submitted,



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**REPLACEMENT CLAIM SET**

- a1*
- 1) [ONCE AMENDED] A deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C18 aliphatic, monohydric alcohol alkoxylates having about 16 to about 30 moles of ethylene oxide per mole of alcohol and about 0 to about 6 moles of propylene oxide per mole of alcohol.
  - 2) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants include at least about 70% by weight based on the total weight of surfactants of non-ionic, C16 to C18 aliphatic, monohydric alcohol alkoxylates having about 16 to about 30 moles of ethylene oxide per mole of alcohol and about 0 to about 6 moles of propylene oxide per mole of alcohol.
  - 3) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants include at least about 80% by weight based on the total weight of surfactants of non-ionic C16 to C18 aliphatic, monohydric alcohol alkoxylates having about 16 to about 30 moles of ethylene oxide per mole of alcohol and about 0 to about 6 moles of propylene oxide per mole of alcohol.
  - 4) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants consist essentially of non-ionic, C16 to C18 aliphatic, monohydric alcohol alkoxylates having about 16 to about 30 moles of ethylene oxide per mole of alcohol and about 0 to about 6 moles of propylene oxide per mole of alcohol.
  - 5) CANCELLED
  - 6) The composition according to Claim 1, wherein said alkoxylates are saturated.
  - 7) [ONCE AMENDED] The composition according to Claim 1, wherein said alkoxylates have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a straight chain or branched chain C16-C18 alkyl group, n is from about 16 to about 30 and m is from about 0 to about 6.
  - 8) CANCELLED
  - 9) CANCELLED
- a2*

- 10) The composition according to Claim 1, wherein said alkoxyates are based on primary or secondary alcohols.
- 11) CANCELLED
- 12) CANCELLED
- 13) The composition according to Claim 1, further comprising from 0 to about 25% by weight of one or more fatty acids based on the total weight of surfactants.
- 14) The composition according to Claim 13, wherein said one or more fatty acids are selected from the group consisting of lauric acid, oleic acid, stearic acid, tall oil fatty acid, tallow fatty acid, coconut fatty acid, and mixtures thereof.

*a<sup>3</sup>*

15) [ONCE AMENDED] A deinking composition consisting essentially of: one or more surfactants wherein at least 70% by weight based on the total weight of the surfactants have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a C16 to C18 alkyl group, n is from about 16 to about 30 and m is from about 0 to about 6; from 0 to about 30% by weight of one or more C8-C20 fatty acids based on the total weight of surfactants; and water.

16) A deinking composition consisting essentially of: one or more surfactants wherein at least 80% by weight based on the total weight of the surfactants have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a saturated, straight chain C16-C18 alkyl group, n is from 18 to 25 and m is from 0 to 6; from 0 to about 18% by weight of one or more C8-C20 fatty acids based on the total weight of surfactants; and water.

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17) [ONCE AMENDED] A process for deinking wastepaper comprising the steps of contacting recycled newsprint pulp with a deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxyates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to about 6 moles of propylene oxide per mole of alcohol.

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18) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein the surfactants include at least 70% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxyates having 14 to 40 moles



of ethylene oxide per mole of alcohol and 0 to about 6 moles of propylene oxide per mole of alcohol.

- 19) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein the surfactants include at least about 80% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to about 6 moles of propylene oxide per mole of alcohol.
- 20) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein the surfactants consist essentially of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to about 6 moles of propylene oxide per mole of alcohol.
- 21) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein said alkoxylates are C16 to C18 alkoxylates.
- 22) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein said alkoxylates are saturated.
- 
- 23) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein said alkoxylates have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a straight chain or branched chain C16-C25 alkyl group, n is from 14 to 40 and m is from 0 to about 6.
- 24) [ONCE AMENDED] The process according to Claim 23, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein R is a straight chained, C16-C25 alkyl group.
- 25) [ONCE AMENDED] The process according to Claim 24, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein R is a C16 to C18 alkyl group.

26) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein said alkoxyates are based on primary or secondary alcohols.

27) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein the average number of ethylene oxide groups per alkoxyate molecule is from about 16 to about 30.

28) CANCELLED.

29) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition further comprising from 0 to about 25% by weight of one or more fatty acids based on the total weight of surfactants.

30) [ONCE AMENDED] The process according to Claim 29, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein said one or more fatty acids are selected from the group consisting of lauric acid, oleic acid, stearic acid, tall oil fatty acid, tallow fatty acid, coconut fatty acid, and mixtures thereof.

31) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with a composition wherein the alkoxyates are present in an amount from about 0.3% to about 0.7% by weight based on the oven-dry weight of the wastepaper.

32) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the recycled newsprint pulp with the deinking composition at a pH of from greater than 7 to 10.

33) [ONCE AMENDED] In a process for making recycled paper from recycled newsprint pulp that uses less sizing agents to produce paper with the same level of water repellency, the improvement comprising: deinking the wastepaper pulp with a deinking composition that includes as a deinking surfactant one or more non-ionic, C16 to C18 aliphatic, monohydric alcohol alkoxyates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to about 6 moles of propylene oxide per mole of alcohol.

- 34) [NEW] The deinking composition of claim 1 wherein the surfactants of non-ionic C16 to C18 aliphatic, monohydric alcohol alkoxylates have about 0 moles of propylene oxide per mole of alcohol.
- 35) [NEW] The process of claim 17 wherein the surfactants of non-ionic C16 to C25 aliphatic, monohydric alcohol alkoxylates have about 0 moles of propylene oxide per mole of alcohol.
- 36) [NEW] The process of claim 17 wherein the restep of contacting recycled newsprint pulp with a deinking composition is a wash deinking step.
- 37) [NEW] A deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and about 0 moles of propylene oxide per mole of alcohol.
- 38) [NEW] The deinking composition of claim 37 wherein the surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates have 0 moles of propylene oxide per mole of alcohol.
- 39) [NEW] A process for deinking wastepaper comprising the steps of contacting wastepaper pulp with a deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and about 0 moles of propylene oxide per mole of alcohol.
- 40) [NEW] The process of claim 39 wherein the surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates have 0 moles of propylene oxide per mole of alcohol.
- 41) [NEW] A process for deinking wastepaper comprising the steps of contacting wastepaper pulp with a deinking composition in a wash deinking process comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to 10 moles of propylene oxide per mole of alcohol.

a6 42) [NEW] The process of claim 41 wherein the wastepaper pulp is recycled newsprint pulp.

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### VERSION OF CLAIMS TO SHOW CHANGES MADE

Claims 5, 8, 9, 11, 12, and 28 have been cancelled; claims 34-42 have been added; claims 1-4, 7, 15, 17-27, and 29-33, are amended as indicated below.

- 1) [ONCE AMENDED] A deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, [C16 to C25] C16 to C18 aliphatic, monohydric alcohol alkoxylates having [14 to 40] about 16 to about 30 moles of ethylene oxide per mole of alcohol and [0 to 10] about 0 to about 6 moles of propylene oxide per mole of alcohol.
- 2) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants include at least about 70% by weight based on the total weight of surfactants of non-ionic, [C16 to C25] C16 to C18 aliphatic, monohydric alcohol alkoxylates having [14 to 40] about 16 to about 30 moles of ethylene oxide per mole of alcohol and [0 to 10] about 0 to about 6 moles of propylene oxide per mole of alcohol.
- 3) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants include at least about 80% by weight based on the total weight of surfactants of non-ionic [C16 to C25] C16 to C18 aliphatic, monohydric alcohol alkoxylates having [14 to 40] about 16 to about 30 moles of ethylene oxide per mole of alcohol and [0 to 10] about 0 to about 6 moles of propylene oxide per mole of alcohol.
- 4) [ONCE AMENDED] The composition according to Claim 1, wherein said surfactants consist essentially of non-ionic, [C16 to C25] C16 to C18 aliphatic, monohydric alcohol alkoxylates having [14 to 40] about 16 to about 30 moles of ethylene oxide per mole of alcohol and [0 to 10] about 0 to about 6 moles of propylene oxide per mole of alcohol.
- 5) CANCELLED
- 6) The composition according to Claim 1, wherein said alkoxylates are saturated.
- 7) [ONCE AMENDED] The composition according to Claim 1, wherein said alkoxylates have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a straight chain or branched chain C16-C18 alkyl group, n is from [14 to 40] about 16 to about 30 and m is from [0 to 10] about 0 to about 6.

- 8) CANCELLED
- 9) CANCELLED
- 10) The composition according to Claim 1, wherein said alkoxylates are based on primary or secondary alcohols.
- 11) CANCELLED
- 12) CANCELLED
- 13) The composition according to Claim 1, further comprising from 0 to about 25% by weight of one or more fatty acids based on the total weight of surfactants.
- 14) The composition according to Claim 13, wherein said one or more fatty acids are selected from the group consisting of lauric acid, oleic acid, stearic acid, tall oil fatty acid, tallow fatty acid, coconut fatty acid, and mixtures thereof.
- 15) [ONCE AMENDED] A deinking composition consisting essentially of: one or more surfactants wherein at least 70% by weight based on the total weight of the surfactants have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a [C16 to C25] C16 to C18 alkyl group, n is from [14 to 40] about 16 to about 30 and m is from [0 to 10] about 0 to about 6; from 0 to about 30% by weight of one or more C8-C20 fatty acids based on the total weight of surfactants; and water.
- 16) A deinking composition consisting essentially of: one or more surfactants wherein at least 80% by weight based on the total weight of the surfactants have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a saturated, straight chain C16-C18 alkyl group, n is from 18 to 25 and m is from 0 to 6; from 0 to about 18% by weight of one or more C8-C20 fatty acids based on the total weight of surfactants; and water.
- 17) [ONCE AMENDED] A process for deinking wastepaper comprising the steps of contacting [wastepaper] recycled newsprint pulp with a deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to [10] about 6 moles of propylene oxide per mole of alcohol.
- 18) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition

- wherein the surfactants include at least 70% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to [10] about 6 moles of propylene oxide per mole of alcohol.
- 19) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein the surfactants include at least about 80% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to [10] about 6 moles of propylene oxide per mole of alcohol.
- 20) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein the surfactants consist essentially of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to [10] about 6 moles of propylene oxide per mole of alcohol.
- 21) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein said alkoxylates are C16 to C18 alkoxylates.
- ~~22) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step~~  
~~comprises contacting the [wastepaper] recycled newsprint pulp with a composition~~  
~~wherein said alkoxylates are saturated.~~
- 23) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein said alkoxylates have the formula:  $R-O-(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m-H$ , wherein R is a straight chain or branched chain C16-C25 alkyl group, n is from 14 to 40 and m is from 0 to [10] about 6.
- 24) [ONCE AMENDED] The process according to Claim 23, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein R is a straight chained, C16-C25 alkyl group.

- 25) [ONCE AMENDED] The process according to Claim 24, wherein [R] the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein R is a C16 to C18 alkyl group.
- 26) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein said alkoxylates are based on primary or secondary alcohols.
- 27) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein the average number of ethylene oxide groups per alkoxylate molecule is from about 16 to about 30.
- 28) CANCELLED.
- 29) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition further comprising from 0 to about 25% by weight of one or more fatty acids based on the total weight of surfactants.
- 30) [ONCE AMENDED] The process according to Claim 29, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein said one or more fatty acids are selected from the group consisting of lauric acid, oleic acid, stearic acid, tall oil fatty acid, tallow fatty acid, coconut fatty acid, and mixtures thereof.
- 31) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with a composition wherein the alkoxylates are present in an amount from about 0.3% to about 0.7% by weight based on the oven-dry weight of the wastepaper.
- 32) [ONCE AMENDED] The process according to Claim 17, wherein the contacting step comprises contacting the [wastepaper] recycled newsprint pulp with the deinking composition at a pH of from greater than 7 to 10.
- 33) [ONCE AMENDED] In a process for making recycled paper from [wastepaper] recycled newsprint pulp that uses less sizing agents to produce paper with the same level of water repellency, the improvement comprising: deinking the wastepaper pulp with a deinking



- composition that includes as a deinking surfactant one or more non-ionic, C16 to C18 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to [10] about 6 moles of propylene oxide per mole of alcohol.
- 34) [NEW] The deinking composition of claim 1 wherein the surfactants of non-ionic C16 to C18 aliphatic, monohydric alcohol alkoxylates have about 0 moles of propylene oxide per mole of alcohol.
- 35) [NEW] The process of claim 17 wherein the surfactants of non-ionic C16 to C25 aliphatic, monohydric alcohol alkoxylates have about 0 moles of propylene oxide per mole of alcohol.
- 36) [NEW] The process of claim 17 wherein the restep of contacting recycled newsprint pulp with a deinking composition is a wash deinking step.
- 37) [NEW] A deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and about 0 moles of propylene oxide per mole of alcohol.
- 38) [NEW] The deinking composition of claim 37 wherein the surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates have 0 moles of propylene oxide per mole of alcohol.
- ~~39) [NEW] A process for deinking wastepaper comprising the steps of contacting~~  
wastepaper pulp with a deinking composition comprising one or more surfactants, the surfactants including at least 50% by weight based on the total weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and about 0 moles of propylene oxide per mole of alcohol.
- 40) [NEW] The process of claim 39 wherein the surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates have 0 moles of propylene oxide per mole of alcohol.
- 41) [NEW] A process for deinking wastepaper comprising the steps of contacting wastepaper pulp with a deinking composition in a wash deinking process comprising one or more surfactants, the surfactants including at least 50% by weight based on the total

weight of surfactants of non-ionic, C16 to C25 aliphatic, monohydric alcohol alkoxylates having 14 to 40 moles of ethylene oxide per mole of alcohol and 0 to 10 moles of propylene oxide per mole of alcohol.

- 42) [NEW] The process of claim 41 wherein the wastepaper pulp is recycled newsprint pulp.